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The significance of local governments in brownfield redevelopment projects

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Thesis Abstract

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In the thesis my purpose was to find out how the local governments can encourage brownfield redevelopment projects, and also the situation of brownfields Hungary and in Finland, especially in Várpalota, and Seinäjoki. In order to achieve that, first, I researched in the available professional material and trying to find examples and solutions that the local governments could possibly use to stimulate and support brownfield projects.

Furthermore, I used case studies from the USA, Canada, the United Kingdom, and Germany in order to get a closer look to the practical side of brownfield projects. Those showed some excellent examples of collaborations and how the local governments, private investors and the local community can work together effectively if their goals and interests are common.

Finally, I conducted my own research in Várpalota, Székesfehérvár, and Seinäjoki, where I interviewed some of the members of the local governments in order to get the most current information about the situation of brownfield projects conducted in those cities.

Keywords: brownfield, redevelopment, investment, local government

TABLE OF CONTENTS

1. INTRODUCTION

The spatial structure of the settlements is constantly changing, moreover, in the last decades these activities gradually accelerated due to the boosting local economies. The locations of the industrial sites of the cities have changed as well. These industrial sites got surrounded by the cities and caused several problems.

The so-called brownfield sites became the central issue of the urban planning when they realized that in order to reutilize them effectively intervention is needed.

Brownfield sites are under or unutilized, mostly old building and other facilities that used to be in industrial, military or commercial use, but now they are abandoned and ownerless. In addition, in some cases these properties are contaminated, polluted with hazardous material, thus before their reutilization remediation activities are needed.

Nowadays, brownfield redevelopment projects are considered as part of the sustainable development since it plays a key role in avoiding urban sprawl as well as it helps to improve the quality of urban development, thus it is receiving more and more focus.

Since the contamination of brownfield sites often threatens the public health of the local community, it creates environmental risks. This is another reason for growing importance of the rehabilitation of these lands worldwide, within the European Union, and at regional level as well.

Although it is environmental-conscious and very useful, the popularity of brownfield redevelopment is quite low. There are several reasons for that, such as the long term and complex process involving, as well a wide range administration, and the need of stakeholder groups that are not always available or interested. In order to conduct a successful revitalization project, the fortunate constellation of every factor is needed.

In my research, above the professional background material from international aspects, I targeted to introduce the features and factors of brownfield redevelopment through case studies from different parts of the world and compare it to my specific focus, Hungary and Finland, especially, Várpalota and Seinäjoki. In addition to the case studies I chose to conduct my own research as well in order to receive the most accurate picture of the brownfield situation of those cities.

Furthermore, my overall goal was to find out the significance of the role of local governments in the process of brownfield projects. My intentions were to reveal the tools

and the practices they use in order to encourage brownfield investments in for the sake of the thriving economy and satisfied local community of their cities.

I consider the abovementioned issue very important, because I believe that despite the fact that local governments, especially smaller cities, do not have as significant budget as the larger ones do, for the sake of their well-being and economical competitiveness liquidating brownfield sites is essential. These brownfield properties are present at a large extent and if polluted, they not only look poorly in the landscape of the city, but endanger the health of the locals as well.

I was aware that in Várpalota there are several sites that are considered brownfields but I did not know much about their situation. That drove me to make a further step and conduct a research in order to understand the situation of Várpalota better and find answers and possible solutions.

2. BACKGROUND

2.1. THE CONCEPT OF BROWNFIELD

When choosing their location, industrial enterprises need to decide where and what kind of territory to place their plants in. They may choose lands that have never been used for industrial or commercial purposes before, therefore there is no infrastructure and the territory has never been built on, these are called greenfields. In comparison companies can also choose sites that have already been in industrial use, but not anymore, so they are abandoned or underused properties, called brownfields. (Czira– Kukely, 2002)

According to Györgyi Barta (2004) the concept of brownfield comes from the American professional literature back from the early years of the 1980s when the term was referring to the abandoned industrial areas (Barta et al., 2006)

However, later on, as the deindustrialization started to spread through more and more developed countries, filled the term brownfield with additional meanings and different contents. For instance, while in the USA brownfield areas were in connection with environmental contamination, in the UK it was meant for sites that had been used for industrial or other purposes, or that were still in use partially, but abandoned, rundown and ownerless. In this approach the under-utilization is the key, where the brownfield lands cannot be utilized immediately, without damage control. (Barta, 2004, 9.)

As for Hungary, the main cause for brownfield sites to form, due to the industrial advancement, was the boosting manufacture and the heavy industry. Therefore, most of the brownfield lands are urban, so the intention with the revitalization is to reuse these sites in question or to restore their initial purpose. (Roncz–Tóthné, 2011, quoting Barta, 2003)

2.2. THE DEFINITION OF BROWNFIELD

Several definitions can be found for the term brownfield due to the aforementioned different ways of formation. However, generally speaking, brownfields are sites that are out of use or underused, mainly industrial properties, for instance abandoned old factory buildings, usually built on the outskirts of the city. These lands are often contaminated and possibly contain hazardous and pollutant substances. (Roncz–Tóthné, 2011, quoting Barta, 2003)

A working group called CLARINET (Contaminated Land Rehabilitation Network Technologies), that has been established within the European Union and funded by the European Commission, prepared a report in 2002 on brownfield redevelopment. In their work they define brownfield sites as ones that "have been affected by the former uses of the site and surrounding land, are derelict or underused, have real or perceived contamination problems, are mainly in developed urban areas and require intervention to bring them back to beneficial use". (Ferber–Grimsk, 2002)

2.3. FORMATION OF BROWNFIELD SITES

Brownfields commonly appear in case of an industrialized area transforming to a service-oriented economy. (Wang, 2011, 1.) The formation of brownfield sides can be caused by deindustrialization, demilitarization, suburbanization, or it can even just simply be a stage of the life cycle of the city as an organ. In all cases, the aim is always to lead these territories back to the natural cycle of land usage. (Orosz, 2012, 79. quoting Priemus, 2001, Schüler, 2008, Waldis, 2009, 5.)

In Hungary the main line in the rehabilitation of brownfield sites is mostly related to urban regeneration endeavors, and due to the endowments of the country these sites are usually dilapidated and remained from erstwhile industrial or military areas. By contrast, Western European countries took a step further and built those problematic brownfield lands into the long-term management plan of the area. This difference according to Györgyi Barta (2004, 80.) could be due to the fact that in the former socialist countries much more brownfield areas can be found than in the western ones.

2.4. TYPES OF BROWNFIELD LANDS

Stated by Éva Orosz (2012, 80–84.) three main categories of brownfield sites can be differentiated.

First of all, the largest group is the so-called 'conventional' brownfield lands that include industrial, military and railway land sites, which cases are no under dispute about the real or perceived contamination of these areas. The formation of these lands can be traced back to the economic structural change when besides the abandoned industrial sites remained military sites and related supporting facilities or abandoned train lines appeared as a result of political transformation and social demilitarization.

The second category is the much debated greyfield that consists of former, residential, and other economic and infrastructural areas. The reason for the controversy is that these sites are not only less frequent in appearance, but located more scattered, often on

the outskirts of the city, getting out of sight. In addition, in these cases the rate of the contamination is relatively low, therefore they do not receive much attention.

Finally, the author mentions a category that is not as well-known as the other two, but is gaining more and more realization. These are potential brownfield lands that may appear in the near future or formed already. Sites that fall into this group can be buildings created by cultural, social or other purposes that are no longer maintained, thus their usage reduced or ceased, for instance churches are becoming more and more neglected, but the re-usage of these buildings has limitations, such as ideological as well as architectural.

As it can be seen above there are many different types of brownfield sites, however, the element of contamination is genuinely important in the terms of the process of all of their later reutilization. Among others, the most common problem is that the soil and other elements of the site are polluted. In addition, it is not rare that the ownership of the property is not settled or the owner is not known, therefore not responsible for the contamination, thus the potential new owner would be the one to take care of the remediation. Furthermore, due to the low propensity to invest, the real estate prices decreased significantly. Consequently, the above-mentioned problems are the reasons for potential investors avoiding brownfield investments and rather invest in greenfield sites instead. (Roncz–Tóthné, 2011, quoting Czira–Kukely, 2004)

2.5. THE ADVANTAGES OF BROWNFIELD REVITALIZATION

There are several potential benefits of brownfield regeneration for all participants. As for the community the advantages are, among others, generating new jobs for local residents, utilizing the extant infrastructure, such as the roads, the public utilities, or growth in tax base due to the new activities. Moreover, existing projects can attract new investors and increase investment demand. Additionally, with the disappearance of all the hazardous substances the possibility of further pollutants decreases, and the environment becomes healthier and more stable.[1] (Meyer–VanLandingham, 2000)

Brownfield revitalization is also advantageous for the stakeholders, for instance for financial reasons, since their location might lead to remarkable profit in case of a fruitful project (Meyer–VanLandingham, 2000, 1.) or the opportunity to participate in the process of the development and of the urban environment.[2]

[1] http://www.umich.edu/~econdev/brownfields
[2] http://www.vitanuova.net/resources/pdf/fsguide.pdf

However, most importantly, brownfield acquisitions are not only useful in the respect of resources and participants, but in terms of all the possible future benefits that these projects could result. Accordingly, brownfield investments are supposed to be ones that provide attractive possible advantages for stakeholders in the region in question and at the same time discouraging social inequalities and environmental degradation.[3]

2.6. THE DISADVANTAGES OF BROWNFIELDS

As everything, brownfield projects have their drawbacks as well, and some say that it "makes them uncompetitive" against greenfield acquisitions. Of course, the hindrances of the brownfield redevelopment projects really are actual (Meyer–VanLandingham, 2000, 1.); starting with the higher costs and struggles with the disposal of contaminations, furthermore the earlier architectural structure not meeting the current standards and requirements. There is also a greater risk, relative to the greenfield projects, of unforeseen incidents and increased maintenance costs. In addition, if the location of the site is in the city center that could cause complications in operations, such as the case of traffic jams.[4]

However, in spite of these obstacles brownfield revitalization is not only possible, but fruitful and profitable and these problems are surmountable.

Fortunately, there is growing evidence that brownfield investments nowadays are profitable and cost-efficient factors to aim for regional or local economic development. The number of firms investing in brownfield revitalization projects are constantly growing, at least in the US in 2000, because of the wide-spreading recognitions of the reachable high profit as well as the good image of an environmentally-conscious attitude. (Meyer–VanLandingham, 2000, 1.)

2.7. REVITALIZATION OF BROWNFIELD

2.7.1. The purpose

Brownfield redevelopment projects are important parts of the sustainable development. Although several brownfield owners are not willing to do anything to change the current situation of their property, or in other cases the neighbouring owners disapprove the rehabilitation. Utilization of these sites plays a significant role in preconditioning the lands for new usage in order to redound to the long-term development of the specific region and reducing regional differences.

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[3] http://www.eoearth.org/
[4] http://www.wiley.com.au/

For the sake of evaluation of the different revitalization aspects, first the aims of the redevelopment options need to be considered.

First of all, as mentioned earlier, the environmental sustainability is rather important, and so are the possible costs, uncertainties and benefits. In addition, the goals of decontamination have to be considered, as well as the further utility options of the certain land. Moreover, the approachability to stakeholders by making it understandable is to be taken into account. (Roncz–Tóthné, 2011, quoting Schädler et al., 2011)

2.7.2. Costs and Risks

First and foremost, one of the highest risks for investors is the low availability of information about the extent of the contamination of the certain brownfield. Although, contamination is not the only obstacle, besides that, numbers of other problems arise such as low level of infrastructure or poor transportation links. Due this fact, the uncertainty of potential extra costs in the future comes into view. Nevertheless, the investors can accept these risks and possible costs in the expectation of higher profit in return at the end of the project.

However, not being personally attached, in case of a downward trend during the process, investors might easily abandon the project and search for another with higher returns. Meyer–VanLandingham, 2000, 9–10.)

2.8. BROWNFIELD REHABILITATION PROJECT IMPLEMENTATION

The decision of implementing a brownfield rehabilitation project depends on a number of factors, but mostly on the local organizational background that includes local firms as well as foreign investors. The key is to find a balance between those two, since local companies might own fundamental resources highly-valued by foreign enterprises, as well as foreign investors possess the financial or the know-how factors. (Estrin–Meyer, 2010, 3.)

2.8.1. Problems of redevelopment projects

A group from the University of Illinois, Institute for Rural Affairs conducted a research in 2001 by making a local survey and personal interviews about the elements that are the most common for a fruitful brownfield revitalization project.

The survey showed that the most essential asset is the good relationship between the local council and the local investors; how committed they work together in redevelopment projects. The role of a local municipality varies from setting up new rehabilitation projects to giving financial, facilitating, or organizational guide or support. In some cases

the city council bought the contaminated property, performed the remediation activities, and sold for a symbolic sum of money to the private investor.

According to another survey in 2003 when brownfield revitalizations were emphasized in cities' local development plans pursuing growth and improvement that way, it increased the number of successful rehabilitation projects in the area. Additionally, it turned out that in cities where the demand for commercial properties is higher, profitable project were more frequent, opposed to industrial properties where no connection was found with successful projects.

Furthermore, the study showed that those cities, which reported difficulties with understanding the funding requirements, were not able to boast of many fruitful projects. That is why a wider range of publicity would be necessary in order to make available as much information as possible about brownfield rehabilitation, using informative conferences or educational events.

Moreover, it got revealed that the paperwork needed for applying for grants is overwhelmingly much, especially for smaller city councils where there are fewer employees to manage the administration of an extensive brownfield projects.

And finally, the interest of the community plays a significant role in the success of a revitalization project. Thus the support of the local community really does matter. (Hamm–Walzer, 2007, 3.)

2.8.2. Factors of successful redevelopment

As mentioned earlier, the attitude of the community is rather important in order to achieve success in brownfield projects. Although, other than that, there are some other factors to mention as well.

First of all, public-private partnerships are vital, since the main goal of every redevelopment project is to restore the properties in the interest of having fruitful economic activity. In addition to that, good management skills are needed from the leaders of the local councils.

Second of all, proper financing plan is needed. This study suggests that city councils should use "Tax Increment Financing", because it is the most suitable for brownfield projects, since that way they are able to make an investment in advance "with the borrowed funds repaid as the property value later increases."

Furthermore, the brownfield land rehabilitation intentions and initiatives should be included and emphasized in the local development plan of the certain city in order to reach success.

Finally, cooperating with governmental agencies is a factor to a successful project as well. The communities included in this survey due to the collaboration gained vital information and knowledge about the subject of brownfield and received administrative assistance and guidance about innovative processes and practices. (Hamm–Walzer, 2007, 7–10.)

2.9. THE CONDITIONS OF A SUCCESSFUL REHABILITATION PROJECT IMPLEMENTATION

There are several conditions and factors to consider in order to implement a rehabilitation project successfully.

First of all, because of the diversity of the local endowments it is not easy to provide a generally applicable resolution. In addition, timing is very important. The development of a specific project requires the availability of all the participants and circumstances, such as acquiring the needed documents, meeting regulations, having investors, or support from the society, and this often takes a long period of time.

In these aforementioned complicated situations a new solution comes into view that is called “temporary use”. This method is between the formation and the final rehabilitation of the brownfield sites and is intended to prevent or slow down the further deterioration of the area, or at least to maintain the current level. It could include, for example, leasing the area or just a part of it. This is a way of saving costs and another advantage is that it can be terminated any time needed. A further benefit of “temporary use” is that it raises attention to the site even before the final usage of it, and it helps to maintain the connection with the community. In addition, in some cases this provisional usage can become permanent and influence the intentions and attitudes of the locals towards the future usage of the site. (Orosz, 2012, 80.)

2.10. TYPES OF BROWNFIELD REDEVELOPMENT PROJECTS

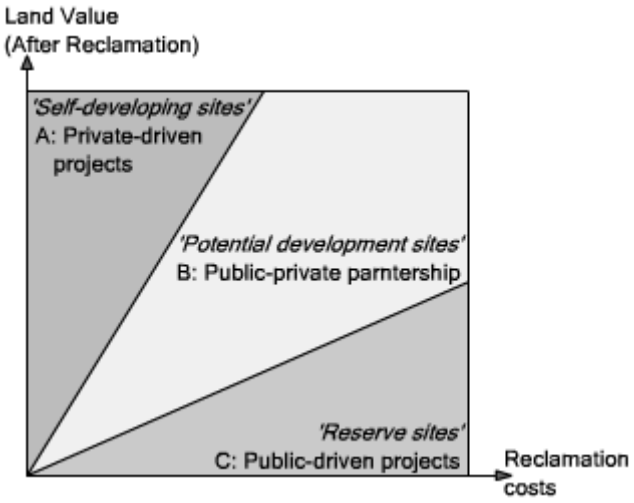

Figure 1: Different types of brownfield projects

Source: Orosz (2012)

A project called CABERNET[5] (Concerted Action on Brownfield and Economic Regeneration Network) created the A-B-C Model that was designed to arrange various types of brownfield rehabilitation projects according to funding method and economic status.

Considering the estimated cost of the revitalization and the value of the land the model differentiates, first of all, 'A' Sites, meaning development projects that are funded by the private sector, by private investors. This type is quite attractive in itself in order to the costs of the rehabilitation return within a reasonable period of time. (Orosz, 2012, 77–79.)

Furthermore, there are 'B', "Potential development sites" that are designed to be financed by a collaboration or association between the public and the private sector. Most of the brownfield rehabilitation projects fall into this category, and their result is on the border of profit and loss. (Orosz, 2012, 77–79.)

And finally, 'C' Sites that's regeneration is to be financed entirely by the public sector throughout municipality funding projects or "specific legislative instruments" such as tax incentives.

The main purpose of the A-B-C concept is to show the "funding drivers" of different brownfield site regenerations, but on the other hand to provide local or regional develop-

[5] http://www.cabernet.org.uk

ment and investment institutions with assistance, for example, by analyzing their current strategies for brownfield land regeneration and providing advice considering different types of brownfield sites.

Furthermore, this model can give an opportunity to get an insight of the operation and function of drivers and factors that affect certain sites, and through this to find the particular ones that gives the possibility of changing from one status to another. (Orosz, 2012, 77–79.)

2.11. FUNDING BROWNFIELD PROJECTS

Funding a brownfield redevelopment project is a very important issue, since most of the time this is the reason of a project not to get into realization.

The study analyses four funding mechanisms for different kinds of projects and different types of brownfield sites. When the model was designed they found important to be innovative and effective, and anticipating the balance was needed between public and private investment.

The first is "Public-Private Partnerships". This type alters every time depending on the operations the public and the private parties prefer. In order to the project effective, it is essential to arrange a formal meeting where all the participants discuss the responsibilities and obligations between the partners very clearly. It is very important to reach a convenient co-operation between the parties, such as the authorities, private actors, and the local community as well. This is a key issue in order to reach a successful project.

Another is Land Value Finance that was created to recover or regenerate the costs of the investment. It captures as much from the accomplishments in land value as possible coming from the investment. One of the advantages of this tool is that it is rather flexible, thus it allows its usage in many situations at a wide range of urban development and brownfield regeneration projects. For instance, financing the growth in taxes can boost urban investments via fiscal incentives; with tax relief or even property tax aiming for development.

Urban Development Funds is an additional tool that "can integrate brownfield redevelopment within the funds themselves" with a much wider range. The most everyday example for this tool is the "revolving fund". Here, the development project members acquire funds with low interests. In addition, the interest that they have to pay returns to the fund again. In the countries Europe the European Union supports the foundation of urban redevelopment funds in order to invest in and promote sustainable urban transformation.

Joint European Support for Sustainable Investment in City Areas, is the name of the program and it helps local or national governments to establish as well as maintain these kinds of financial instruments.

Finally, the Impact Investment Funds, which are the ones that concerns the social side of redevelopment projects. These are not aiming profit as a goal, but take responsibility for the local society. However, they provide support and benefits both social and environmental. They use a number of projects to a large scale with evened portfolio.

These are only four methods of financing brownfield redevelopment projects, but additionally there are a lot more that are just as innovative financial solutions as the abovementioned ones. For the sake of choosing the most applicable alternative all the participants need to realize the relationship of the real estate market and the investment, and when establishing the rules and responsibilities it has to be formal and clear.

Especially, it is rather important to know everything there is to know about the concept of brownfield redevelopment and try to avoid centralization, which allows a most effective way of responding to changes. (Medda et al., 2012)

2.12. THE IMPORTANCE OF BROWNFIELD REGENERATION

As a part of the sustainable development, brownfield revitalization is essentials by providing opportunities to local governments to redevelop under- or unutilized properties, decrease the cost of infrastructure, increase tax base and reduce urban sprawl.

Although, there are many drawbacks of these projects, but there are several examples to show that these disadvantages can be overcome and profitable redevelopment projects can be reached.[6]

[6] http://www.pando.sc/

3. METHODOLOGY

The rehabilitation of brownfield sites as a part of sustainable development mean a great challenge both nationally and regionally.

After the background researches from professional literature I would like to introduce the subject of brownfield redevelopment form different aspects, using various material; books and mostly conference papers, journals, case studies and other publications. These materials already revealed some of the problems around brownfield revitalization projects, but at the same time showed possibilities how to overcome those barriers in the interest for reaching a successful and profitable project.

In order to gain a better understanding of the obstacles that arise when implementing a rehabilitation project, later on I present case studies and success stories that provide more examples for problems that arise during brownfield projects, but they also reveal practical answers how to break down barriers to these projects.

Finally, for the sake of getting a real view of the current situation of brownfields, specifically in Várpalota and Székesfehérvár, Hungary and in Seinäjoki, Finland, I conducted my own research in these areas by interviewing employees at local councils and municipalities.

The reason I chose personal interviews is because my intention was to highlight the gap between theory and practice, and even if in some instances, as the case studies show, the practice works as well, I would like to know whether in my hometown and in Seinäjoki, where I spent an entire year, are dealing with brownfield redevelopment projects and if they are, how the cope.

3.1. PURPOSE - HOW TO ENCOURAGE BROWNFIELD INVESTMENTS

My overall purpose in this thesis, after introducing the subject of brownfield and show cardinal problems around brownfield investments and trying to find reasons and possible solutions to those problems, to compare it to the research that I conducted and see what can be changed in order to improve the situation of brownfield redevelopment projects in Várpalota and Seinäjoki.

Even if brownfield investments are supported in general, they are not in public awareness. I aim to find out how these revitalization projects can be promoted better and in wider range and find solutions for encouraging and supporting them, either financially, by providing opportunities, or by unburden the processes.

Most importantly, I am interested in that how local governments and local councils can play a significant role in brownfield projects thereby strengthening the local economy and community.

In my research Budapest, Székesfehérvár, Seinäjoki and Várpalota is featured and since they possess very different sources, endowments and the location it is interesting to compare them and find the reasons of differences regarding to brownfield projects. In the end my main focus is on the city of Seinäjoki and Várpalota.

3.2. STRUCTURE OF THE THESIS

I created the structure of my thesis in a deductive way, firstly present some of the available international background material in order to introduce the subject of brownfield. Thereafter I explain the case studies from the USA, Canada, the United Kingdom, and Germany that show the raison d'etre of brownfield development and the examples that it can work very effectively.

Later on I explain the situation of brownfield sites in Hungary and in Finland, completed with short case studies originated from those countries. In addition, I write about current tenders and available subsidies that can be useful for brownfield projects.

Finally, I present my findings of the research that I conducted by making personal interviews in Várpalota, Szépkesfehérvár and Seinäjoki in order to receive the most current information about the situation of brownfield sites in those cities. Moreover, after the interview I raise some questions, reveal the problems that came up, and provide possible solutions.

4. FINDINGS

The idea for solving or at least listing the problems that occurred first in developed countries, such as the USA, the United Kingdom, France, or Germany, where after the structural change the former heavy industrial area; mostly factory buildings, roads and facilities became abandoned.

Since the whole structure of the economy changed, the demand for rehabilitation appeared as well and agencies and working groups were founded in order to establish, finance and conduct brownfield redevelopment projects.

In the USA the Brownfields Economic Development Initiative (BEDI) is the main source of funding offering granting programs and promoting economic as well as community development. Their fundamental goal is to handle the rehabilitation projects of these abandoned, contaminated and underused industrial as well as commercial buildings and other properties, where the extension and the improvement is hindered by existing or potential pollutants or hazardous material.

The grants of Brownfields Economic Development Initiative mainly focus on reutilizing with special attention to the actual redevelopment of the contaminated brownfields lands via economic development projects. In addition, they aim the boost of economic opportunities for those participants who has rather low or below medium level incomes in order to create or maintain enterprises and jobs, and to reach development in the local tax base.

Brownfields projects are able to generate many advantages and benefits, especially for local governments and communities in the USA.

The remediation process of converting brownfield sites into green, clean, and reutilized areas is a central goal for a European research group as well. In Central Europe project called COBRAMAN collects, analyzes and organizes all the know-how around the practice of brownfield rehabilitation projects. They collected more than 60 different features of brownfields, such as location, surrounding area, current usage, owners, level of infrastructure, or rate of contamination. These data is coming from more than 40 Central European projects, for instance, Germany, Czech Republic, Italy, Slovenia, or Poland.

The benefits of these brownfield rehabilitation projects are moving on a rather large range, since the advantages for the community to receive after a successful project can be the discontinued harmful-to-health pollution and hazardous sites. Moreover, redevelop-

ment projects result and boost new investments, and through that creating new jobs and increasing the productivity and the values of the area.

There really are a wide range of different brownfield definitions thus many different evaluating and redevelopment methods, however, the "pilot projects" serve as useful base in order to find the best solution method for every specific region. (Roncz–Tóthné, 2011)

4.1. CASE STUDIES

In order to receive the more practical side of brownfield investments and to get to the real problems I decided to introduce some case studies from the USA, Canada, the United Kingdom and Germany that illustrate the process of brownfield projects and features the solutions.

4.1.1. USA - The Chicago Center for Green Technology[7]

The Chicago Center for Green Technology is a demonstration facility featuring technologies for renewable energy as well as sustainable development via promoting education and research by providing available sources.

The location of the center is near to Kinzie Industrial Corridor that is the collection site of many businesses in the industrialized area of the city and focuses on redevelopment projects, while contributing to many sustainable development projects.

The property that became the Chicago Center was established in 1952, was used to recycle demolition and debris refuse. However, in 1995 because of violating some of the conditions of its recycling permit the city council shut the facility down. Since, the company operated a waste storage and treatment facility, by the time of closing almost the whole territory was covered in construction waste, some sank into the ground even.

Although after they received the ownership, the City of Chicago's Department of Environment intended to remediate the property, no contaminants were found after clearing the site of construction wastes that took more than a year.

The city attempted to sell the property, but no one was willing to pay the price, but the local government would have liked to receive at least the cost of the contamination back.

As for the project vision for this brownfield property the local government always expected it to end up in the use of private commercial, but in the end it became a mixture of industrial and commercial use.

[7] http://www.uic.edu/orgs/brownfields/

Three organizations were interested in the property and after the redevelopment project wanted to use the facilities as office building and in order to fulfill priorities of each of them a multi-functional environmental education center came into vision.

The project was finance via a public-private partnership between the city and a private investor, the Commonwealth Edison Company.

As collaborative project work, the rehabilitation was designed according to thoughtful planning. In site planning a combination of several designs were used in order to bypass the negative effects and concentrate to the best alternatives.

Energy efficiency was rather important during the whole process and they combined the energy conservation strategies with renewable energy. Even in building materials the sustainability was kept in mind; limit the waste and minimize pollution.

When finished, the Chicago Center for Green Technology was not only a model of energy efficiency and sustainability, but it also concerns for the community with job creation and career development, in addition to gardening programs and job trainings, promoting landscaping, horticulture, education and environmental health and safety. Now the Center is a vital part of the community and it is vibrant and in everyday use.

However it takes a large effort to conduct brownfield development projects to lessen brownfield properties in the area through this project, the Chicago Center for Green Technology became an incubator for urban revitalization in the area of Chicago. In addition, earlier the economy of the city suffered from the de-industrialization, the city realized that something is needed to be done and this brownfield redevelopment project was one of the factors that helped the local economy of Chicago thrive again.

According to the authors, several factors assisted to the development of the Chicago Center for Green Technology and it was the fortunate combination of a good model, available energy sources, proper sustainable design, contributing public leadership, as well as the support of the community, changing attitudes, support and funding from the government and most importantly, timing.

The most important benefit from the successfulness of the project is that by by providing green design principles during the conduction of the development project, the finished Chicago Center for Green Technology provides the city with the opportunity to give way and proper support for new brownfield redevelopment projects in the future.

4.1.2. Canada - Brownfield redevelopment for housing[8]

In Canada most of the brownfield sites are located in urban areas and public works are also available on the properties. Only remediation would be needed in order to reutilize them, for example, for housing.

Brownfield rehabilitation for using the facilities housing in Canada faces a several challenges, but despite the hindrances there are instances successful brownfield regeneration projects that have been constructed all over the country, and in addition, and actions were implemented in order to encourage as well as to support brownfield redevelopment on Canada.

This study is not about one example of only one regeneration, but sums up the results of 11 cases of brownfield projects. Their main purpose was to provide the ideas and the knowledge that can be used as a future reference, by showing the how the successful local developers managed to overcome obstacles during the processes.

According to their findings, the researchers grouped the obstacles faced during the brownfield redevelopment projects into four categories.

The first was the costs for environmental remediation. Understandably, they found it very common while conducting brownfield rehabilitation projects that these investments entail with higher costs, because of the contamination and the higher risks, that can limit their estimations and expectations. In order to overcome this issue expertise is needed and the throughout examination of the area.

Another issue is the official administration that comes with brownfield redevelopment projects, including longer waiting times for approvals, settlement of ownership, and waiting for environmental regulatory. In addition, several conductors of projects used risk assessment in order to reduce the environmental remediation costs.

The study showed that local projects all over the country of Canada, and even if the site was heavily contaminated, could manage to deal with the high remediation cost barrier by using the techniques of alternative assessment or technologies.

Second of all, the financial and economic conditions in general are very important factors as well. In several instances market demand is boosting enough to let brownfield housing project to establish without any additional financial support. For instance, in Richmond there is a strong local demand for housing and despite of the contamination London Landing company was able to bear the costs of the remediation.

[8] http://www.cmhc.ca/

But unfortunately, a lot of brownfield properties, are not in the situation as lucky as others and cannot afford the remediation costs until the local market conditions are changed. These sites, that expect negative profit at the end of a project, will not participate actively in brownfield regeneration project in any way, until they receive support. In order to reach that, it is the responsibility of either the national or the local government to provide incentives; tax exemption or other financial support.

Thirdly, another matter is planning and regulatory approvals. Since planning approvals and all the administration occurring when conducting a brownfield project take a rather long time to receive and the actual work can begin, many investors take interest in other projects.

In addition, time is not the only issue when the paperwork delays, because of that, that costs rise as well. The study suggests based on the evidence that this matter of lengthy administration could be eased by asking assistance that are expert in the subject and it may somewhat speed the processes up. Moreover, the contribution of the local council means a great help as well.

Finally, the support of the neighbourhood is rather important as well. Their concern and opposition mean a great hindrance for brownfield regeneration projects, as the study showed. Moreover, interestingly, it turned out the almost the hundred percent of the time the level of the contamination had no connection to the level of the opposition of the neighbouring opposition.

The reason for this opposition of the neighbourhood could come from the fact that after the remediation of the contaminated brownfield site finished, the process of redevelopment and all the other activities from then on, it is not different form a regular development project. This matter may be overcome by consultation and sharing information with the public, trying to gain their support that way.

In conclusion, as the case studies revealed, there are many hindrances when conducting brownfield regeneration projects, but there are several techniques to help to overcome these barriers in order to reach a successful project as well as to keep the support of the community. These techniques include, most of all, innovative ideas for remediation and new approaches using modern technologies, financial programs, effective assessment methodologies and above all, thoughtful planning, including public consultation.

These case studies show that there is great potential in brownfield sites to provide housing possibilities in Canada.

4.1.3. United Kingdom - Holgate Development in York[9]

This case study features the brownfield redevelopment of Holgate in York. The site is in mixed use, and the project was partly funded publicly.

The location of the site is near to the center of the city and has the extension of 18.5 hectare. It used to be railway carriage manufacturing building that was standing empty and unutilized for a long time.

Since not so long before that period there was a major job loss in the area, the City of York Council formatted the York Regeneration Partnership to collaborate with a housing association and a national regeneration agency.

The situation was rather fortunate, because they possessed the desired amount of money for a development project and in addition they receive extra support from governmental funds.

The main goal of the new partnership was to create jobs and to boost employment opportunities in the region.

The regional development agency bought the railway carriage manufacturing building in 1996. The site has a regular shape, so easier to work with, in addition there is a road leading up to it on the front and at the back there are the railway sidings.

Moreover, the neighbourhood of the site is very fortunate as well, since in the near there is a well-established housing estate.

The brownfield redevelopment plan for the Holgate site was diverse usage; housing, commerce, manufacturing, open space as well as community facilities. The factor of housing was placed near to the already existent terraced housing on the western part of the property.

The road connections are mainly built, so the site is approachable, and there is a possibility of further extension, since not all the parts of the site can be approached on road.

When planning, they were quite through and used draft planning guidelines in order to lay out the housing development. That meant building, for instance, flats that were constructed by using excellent quality materials.

Furthermore, there were other intentions to build car parking spaces, shared recreational spaces, as well as landscaping.

After consulting with public expertise they created the overall planning.

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[9] http://www.cabernet.org.uk/

Following extensive public consultation the master plan formed the basis of the outline planning. According to that, they built a hundred dwellings and a neighbouring center.

The next step was to create a concept of promotion and find a way to attract businesses in order to create new jobs.

One of the ideas was to lease the buildings, but only certain kinds of businesses such as ones that provide high standard of design, have consideration of cycles and pedestrians, intend to provide parking spaces for people with impaired mobility, and create landscaping in the car parks in order to soften the appearance of any essential areas of hard surfacing.

The main idea of the brownfield redevelopment project was to attract as well as establish a wide range of different business activities on the site that are labour intensive, in order to provide the local community many jobs.

So, in the end this successful project after remediating the contaminated brownfield site of the carriage manufacturing facility, it provided the area with new infrastructure, including the road network. In addition, they only allow businesses in to the new site if they fulfill the strict requirements of sustainability and environmental-consciousness.

They not only provide places for start-up of other companies, but financial support as well, if the at least one third of the employees of the company are local. This worked out that well, that shortly after the beginning there was shortage of labour.

One of the companies that the project gave home to is a railway freight carriage manufacturer form Canada that employs 350 people.

Not only the growth of employment rate came into realization form the goals of the project, but generation of all types of good quality, as well as affordable housing with neighbouring services.

The Holgate redevelopment project reached all its objectives in addition to the rehabilitation of a brownfield site. Besides employment opportunities, affordable housing, and high standards, they were left with an additional six hectares of land site that can be used to commercial or industrial purposes and further development.

Although in one aspect the project did not reach its planned goal. The planned community facilities have not been built yet, because of the shortage of financials. However, land and space was set aide, earmarked for the purpose of this. There is even a building that is a possible for renovation in order to the community can use it. Plans are already existent and negotiations have started, only the financial source is missing.

4.1.4. Germany – Industrial park in Hamm[10]

The following project was conducted in Hamm, Germany, on the north-western part of the country. The case study shows how an out-of-use mine can be redeveloped as an industrial park.

Radbod, the local coal mine from 1955 to 1960 was working very productively with more than four thousand employees, and producing more than a million tons of hard coal per a year. However, later on the employee numbers got reduced gradually until in the end, when the mine closed in 1990.

Unfortunately, this was not an exceptional example of mines to shut down in the Ruhr Area, many of other mines shared the same path with Radbod.

Everything seemed to be fine when right after the closure of the mine, planning and designing started already, because the city of Hamm would have liked to handle the situation immediately. In order to compensate the huge job loss and to reduce the shortage of industrial and commercial sites in general, the city started to develop facilities that would serve that purpose.

The planning featured diverse and factors that allow a design. It was important from the point of planning, to integrate historical buildings to the project, as well as existing green sites and various street designs. The focus was on the project to be flexible for the sake of reacting to the desires and interests of the future investor. Their overall goal was to establish a harmonious urban environment.

Another important thing for the project was the desire to preserve the heritage buildings. These were the shafts of the former mine and the engine house buildings. Since they are under monumental protection, their restructuring is rather problematic for economical and social reasons, and in addition, many regulations have to be met during the process.

Because of the specific construction, since they are rare monuments. High level of expertise was needed in order to meet regulations and the regeneration project going on an effective path.

On the other hand, the three other buildings were not under monumental protection, so that way the redevelopment process was much easier with them. One of these sites is the social department that is currently in the use of the company of Netzwerk Radbod that business is to measure employment creation in the area. The same company uses the old porter-house as well, as an office.

[10] http://www.cabernet.org.uk/

The development company, Kulturrevier Radbod uses the vehicle hall that provides facilities for both cultural and artistic purposes. This way they try to attract people from different backgrounds to the site.

The second important issue was for the sake of the project to be successful, is to create as many new jobs as possible during the remediation, and not only qualified workers, but unskilled as well, and taking the nature of the project into consideration, mostly un skilled.

In order to approach the appropriate measures to attract labor initiatives were made to see the situation clearly. First of all, there was the process of separating then cleaning the bricks that cannot be used anymore during the variable dismantling processes. This was needed because they wanted to re-use as much demolition material as possible. So, they needed the labour force to understand the job.

Another issue was the elimination of the hindering vegetation and it was needed to be done even before the start of the construction. This meant that they needed those workers immediately.

In addition they needed working force to design and planting of the rain storage reservoir, but for this matter, not unskilled, but qualified labour was needed.

But all in all, regarding the matter of job creation, the objective was to offer job opportunities to as many local people as possible.

Finally, the disclosure of information was rather important for the conductors of the brownfield redevelopment project. They targeted high level of sharing information with the public in order to gain the trust of the local community.

In order to make the whole process transparent for the public, in addition to the citizen information, public ground-breaking ceremony was held to let the community get closer to the project.

On the checklist of good practices on the website of CABERNET this project reached quite a high level. They managed to preserve the existing industrial heritage and landscape, balanced the preservation with demolition, thus provide sustainability for future needs, created new job opportunities, reduced local problems, contributed to more a compact city, created connections between the brownfield site and the surrounding neighbourhood and provided possibilities for walking, cycling, or public transportation.

4.2. BROWNFIELD SITES IN HUNGARY

There is a website[11] where we can find accessible data about the brownfield lands in Hungary. Their database is gained from a project conducted by the Center for Environmental Studies, launched in 2004 by sending out questionnaires to local councils. Their purpose was to gather positive and negative practices, and also to provide information and knowledge about the process of brownfield utilization. The whole project was financed by the Environmental Fund of the Hungarian Ministry of Environment and Water.

As a result to the research, 183 brownfield sites were reported locating in 66 cities. Their database includes all of these areas and is divided into two parts; an investors' and a researchers' point of view. For the investors it shows information about properties that are underutilized and in need of development, while the researchers can gain data on not just un-utilized or underutilized properties but all the brownfield sites that the research revealed.

Each databases can be filtered by region, and all kinds of information is given such as the names, the extension, the city hall, the owners, the previous function of the property, the value, the extent of the contamination, and even the suggested form of utilization.

According to this research, as of 2004, there are more than 35 km^2 reported brownfield sites in Hungary all together. From that number only in the capital, Budapest, there is one quarter of the whole, 8 km^2. In Várpalota it is just 67 200 m^2 while in Székesfehérvár 3.2 km^2 of brownfield land can be found.

In Budapest there are all types of sites, but most of them are old factory buildings, sites of mining, real estate or other buildings. The sites of Várpalota are mine area and factory buildings, and Székesfehérvár properties used to be military barracks and an unused university and academy block.

4.2.1. Case studies

In order to get a clearer picture of the practice of brownfield redevelopment projects conducted in Hungary and Finland, I included two case studies about implementation of regeneration projects carried out in Budapest, in addition, later on, there can be found a case study from Finland, Seinäjoki that shows the Finnish way of accomplishing brownfield projects.

[11] http://www.ktk-ces.hu/brownfield_database_start.html

4.2.1.1. Infopark in Budapest

The Infopark is the first innovation and technology park of Central Eastern Europe that is a center of telecommunication, information technology, and software development. Such companies are found there as Lufthansa Systems or IT-Services Hungary, but in addition, new, immerging companies as well.

Although the idea of creating a park like that was existent for some time, the place for the realization was given in 1994, when the World's fair got cancelled in Budapest, because of financial issues. The area meant for the Expo was already attached to public works but other than that it was just an empty area waiting to be built on. There were many interested investors with different concepts, but in the end the idea of the Infopark was decided on to make into realization.

In order to the state receive a strategic role and to secure the implementation the project had to be carried out by an enterprise, but the investor did not become the owner of the property of the land, only the rights of land use and installation.

Although the company had to take care of the project implementation, the arriving companies took part in the construction processes as well. The first enterprise to join was the IBM Hungary ltd. Moreover, a German business developer arrived, collaborated invested in the project.

According to the established structure the developer company deals with the construction of the office buildings while the public, non-profit featured company is responsible for the supporting of the processes of innovation and research and development, maintaining young businesses, and providing incubation services.

When building in the park, they had to be cautious with the foundation of the building and the contamination of the possible hazardous material, because there used to be a marshland, thus the project may cost more than planned. They also made it to their advantage and created little ponds as well, to make the environment friendlier and more natural.

From the beginning the Infopark is constantly improving and expanding, and providing places and services for more and more firms whether it is a big multinational company or a little start-up enterprise. (Barta, 2004, 193–199.)

4.2.1.2. The gas factory of Óbuda

The factory had been established in 1913, but when changing to the natural gas its operations lost their purpose and 1984 it got closed. In addition to the problem that it was a

huge area, an estimated 2500 tons of gas cleaning paste remained. The responsibility of remediation would have been the former owner's but refused to take it.

The specific buildings of the gas factory are protected historic buildings, but at the same time it makes the whole redevelopment project more complicated.

Budapest involved this project as well to its local development plan. They kept in mind the possibilities of both giving it to private companies to revitalization and to implement the remediation while still possessing the property.

In 2004, among others, the site of the gas factory became the property of the city of Amsterdam within cooperative agreement between the two cities. According to the planning, after the remediation it would be open for the public in 2006 and museums would be placed in the site.

For the implementation of the plan, sources were needed from the European Union, because they realized that further planning is needed on the subject, since the redevelopment process would simply increase in traffic, which can cause disruptions.

For today, some of the buildings gained new function and were renovated and renewed. At the southern part of the former factory office buildings and housing complexes were established.

The plans for conversion of the protected historical buildings to museums are still in focus as well as the creation of a cultural and festival park.[12]

4.3. BROWNFIELD SITES IN FINLAND

A study provided by CABERNET shows[13] the situation of brownfield sites in Scandinavia that is very far from the European station. For start, there is no official definition for the term brownfield. This is also true in the case of Finland as well.

CABERNET researchers state that formerly developed Scandinavian cities like Helsinki in Finland are already regenerated due to boosting private investments because of the high level of competition. Other than the main urban center of Helsinki, in smaller cities where the population densities is rather low, therefore there are many options and opportunities to invest and improve.

As a result of the CABERNET research, there are no exact and punctual data about the total number or extent of the brownfield sites in Finland. As of 2001, the suspected of potential number of brownfield sites is around 20 000. Although this number supposedly

[12] http://www.ebuild.hu/
[13] http://www.cabernet.org.uk/resourcefs/417.pdf

does not mean a large extent as well, since the industrial development was quite different in Finland than in other parts of Europe. Their industry structured mostly after the Second World War and their extension is rather small and dispersedly located.

The types of brownfield sites include mostly paper factories, wood processing workshops, mining areas, machine, metal, and textile factories, but their number, compared to other European countries, are very low.

The reason for the brownfield investments in Finland may lie in the barriers appearing when abducting a redevelopment project. One of the problems is that there are no accustomed criteria for objectives, or risk analysis related to specific contaminated lands. Another thing is the lack of expertise in the subject especially by the local councils.

Additionally, even in a country like Finland, which is widely known for its low level of bureaucracy, the administration is rather complicated and makes the whole process slow. Although this matter is improving nowadays briskly.[14]

All in all, brownfield sites in Finland are in use quite rarely and only to a small extent.

4.3.1. Case study of Rytmikorjaamo – Headquarters of Creative Forces

This study about the re-utilization of an old building really reveals the features of the Finnish way of reusing brownfields.

Rytmikorjaamo[15] was created by the reutilization of the building of a former depot for postal vans. Originally the depot was built around 1950, but was unused for several years. Finally, in 2001 Seinäjoki Association of Live Music rented it for the period of Provinssirock Festival and used it as storage.

After a couple of years, for a performance they cleaned the hall, and later on while renting it Seinäjoki Association of Live Music renovated the building in order to create a proper rock club with all the facilities; rehearsal rooms and offices. It opened in 2006.

In 2008 Seinäjoki Association of Live Music together with the City of Seinäjoki and Frami Oy bought the property and improved it as a nationally and internationally recognized conglomeration.

Now the building of Rytmikorjaamo is a centre of creative work. There are many different activities that can be carried out there. It is a place for rock concerts, for work, or for pleasure, for students and for researchers, in all kinds of fields; music, culture, arts, or

[14] http://www.cabernet.org.uk/resourcefs/134.pdf
[15] http://www.rytmikorjaamo.com/briefly-in-english/

communications. It is ideal for businesses as well, since it provides modern facilities for office meetings, events, trainings, or for recreational use.

They promote that it is a meeting place for people form young to old, and also the base of the region's music talents. They deal with event production as well as creative forces.

4.4. CURRENT TENDERS, GOVERNMENTAL SUBSIDIES , AND PRIVATE AGENCIES

One of the key issues around the hindrances of brownfield development appears to be the matter of money. Of course, it is not an easy process all in all, but to find the right funding source is rather important.

Fortunately, there are several options to choose from especially because of the European Union. As the part of the environmental protection and the sustainable development, brownfield rehabilitation is considered an important issue to support.

On the website of the European Investment Bank there is a project called 'Brownfield redevelopment fund' that supports investments to remediate contaminated brownfield sites by using environmentally friendly techniques. They finance acquisition of both public or private properties, and finally selling it to third parties, thus to support the regeneration of the brownfield sites of the certain city. Unfortunately, it is only available for the countries of Belgium and France.[16]

The European Commission is responsible for supporting brownfield investments through the European Structural and Investment Funds and within that the European Regional Development Fund.[17]

However, there are research programs that do not support brownfield redevelopment by granting, but by searching for implementable solutions that can be used as a framework in the future. A project called 'HOMBRE' within the European Commission has the objectives of reaching a "paradigm shift in sustainable brownfield land management practice." In order to achieve that they research about the formation of brownfields, how technology and operations could help effective implementation, or ways to reach zero brownfield. Their report summaries are available on the website. Unfortunately, neither Hungary, nor Finland participates in the research.

In Hungary, with the support of the European Union there is a development fund Széchenyi 2020.[18] Within this fund, there are regional operative programs that provide fi-

[16] http://www.eib.org
[17] http://ec.europa.eu/index_en.htm

nancial support as well as help in structural and organizational development to those who are eligible for the requirements. They promote, among others, regional development and brownfield redevelopment as well.

In addition to the governmental, there are other means of support as well[19]. There are a number of private investors, but also investment agencies and companies that has a main profile in connection with brownfield revitalization. For instance, a group called COBRAMAN[20] deals with coordinating brownfield redevelopment activities by introducing tools, concepts and practical advice when implementing a project. They also work with the support of the European Regional Development Fund.

In Finland, according to CABERNET[21], brownfield regeneration projects are financed via private fund mostly or in other cases by local governments. Revitalization is mainly reached by the process of the planning and the development.

As it revealed through the interview that I conducted with Mr. Kari Rintala (Senior Specialist of the Centre of Economic Development, Transport and the Environment) the European Regional Development Fund offers different grants to deferent areas. Furthermore, the Rural Development Program for Mainland Finland[22] features organizations and projects that deal with rural development and uses funding from national government, local councils as well as private investments. Moreover, another way for financing is Tekes.[23] Their programs include financial and expert service areas, and their initiatives help organizations to build new know-how and networks within their fields.

4.5. MY OWN RESEARCH – PERSONAL INTERVIEWS

My overall purpose was to compare the situation of brownfields and the development of brownfields in my hometown, Várpalota and in the town of the Finnish university where I spent two semesters, Seinäjoki. Since the material in this specific subject available on the internet is rather limited, I decided to conduct my own research as well by interviewing persons who might be familiar with these matters. I chose to go to local councils and local organizations in order to find out about the status of the local brownfield development policies, frameworks and practices.

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[18] http://cordis.europa.eu/home_en.html
[19] http://palyazatportal.hu/
[20] http://www.central2013.eu/fileadmin/user_upload/Downloads/outputlib/cobraman_tools_brownfield_regeneration.pdf
[21] http://www.cabernet.org.uk/resourcefs/134.pdf
[22] http://www.rural.fi/en/index.html
[23] http://www.tekes.fi

4.5.1. Finland, Seinäjoki

The city of Seinäjoki is situated in South West Finland and it is the centre of the region South Ostrobothnia. The area used to be a self-governing community and towards the end of the 19th century the construction of the railway brought development; local institutions were established and businesses boosted with fresh opportunities. After the Second World War development began again; infrastructure improved and the economy thrived. Seinäjoki received the city status in 1960, after which the population increased briskly and the range of services expanded. By 2009 some of the surrounding cities, such as Peräseinäjoki, or later Nurmo and Ilmajoki were merged to the city giving 56 000 the total number of inhabitants. Nowadays the main focus of investments is in education and future innovation and improvement.[24]

As it is seen from the website of the project 'Invest in Seinäjoki' they find it rather important to develop their area regionally and locally via reaching out to both Finnish and foreign investors, attracting them to Seinäjoki region, since it has an excellent location, well-developed infrastructure; good plane, train, or road connection.[25]

The two most boosting business opportunities are in the areas of the food industry and the continually improving sector of infrastructure and trade. In addition, they also put a great emphasis on services.

As for the brownfield redevelopment projects I could not find evidence of those kinds of activities going on. Mostly the investments are about expansion premises, housing, construction trades and services.

4.5.1.1. Interview with Mr. Kari Rintala

In order to gain more information I contacted Mr. Jouni Pekkala, the Sector Manager of Seinäjoki Region Business Service Center who redirected me to Mr. Kari Rintala Senior Specialist of the Centre of Economic Development, Transport and the Environment.

This center is responsible for implementation of tasks that promote the competitiveness and development of the region.[26]

The personal interview I conducted with him revealed that, generally speaking, to his knowledge, there are no governmental or regional tenders or supporting projects in order to encourage brownfield investments specifically. However, sustainable development and environmentally-consciousness is promoted within any business areas; such as usage

[24] https://www.seinajoki.fi/
[25] http://www.investinseinajoki.fi/en/
[26] http://www.ely-keskus.fi/web/ely-en

of renewable energy and environmentally friendly sources and materials, but it is related to the creation of new buildings and infrastructure, not for the usage of the existing ones.

On the other hand, he mentioned the European Regional Development Fund that provides area specific funding according to the needs and situation of the specific region. Additionally, he talked about the Rural Development Program for Mainland Finland that features the development of the rural areas of Finland. Although, since brownfields occur not the rural, but the urban part of cities this fund is not relevant in this subject. However, he also noted a funding project for research and development, Tekes that provide expertise and network to enterprises in any kinds of businesses.

Mr. Rintala told in the interview that generally, in case of investments, the leading principles of governmental granting and financing, the main focus is on supporting small and medium-sized enterprises. These firms, understandably, target growth, job creation, innovation, prohibiting climate change, and environmental issues, good management and human resource management.

He also added that the ideal way when conducting a project is to have three parties; the national government who usually contributes with money or tax incentives, the local governments who normally provides the opportunities and frameworks, and the private investor who deals with the implementation and realization of the project.

All in all, at the end he stated, "As far as I know, any of these funding tools do not take into account or make separation between green- and brownfield investments."

4.5.1.2. Interview with Mr. Tomi Kohtanen

As I was advised by my supervisor I contacted Mr. Tomi Kohtanen who is the vice director of the South Ostrobothnia Chamber of Commerce and made a personal interview with him where I asked about the subjects of brownfield investments and projects conducted in Seinäjoki.

First of all, he told me the same that I heard from Mr. Kari Rintala that there are no supports or tenders for encouraging brownfield investments particularly, at least not in general, at governmental level. However, there are specialized development plans for each region; they give support once for one area, once for another, according to location, resources, needs and other factors.

As explained by him, investments usually work like the following. The local government works together with the entrepreneurs, the foreign or inland investors and support each other via different projects, for example the city council provides the buildings and real estates, the investors bring the money, and the project is mutual, thus it planned and

implemented with the collaboration of the parties. Although, he added, that it, of course, can be different, it also depends on every specific situation.

When I asked him whether he can mention me specific projects related to brownfield regeneration, he told me that unfortunately there are not many examples to list in this subject. There are some projects that are partially linked to brownfield, but most of these are about restoration of buildings that are currently in use, so it is only renewal, or most of all expansion. He even gave me an example to a project that focuses on expansion; the Seinäjoki arena. It is a typical cooperation between the city and the investors, already at the time of its construction, and now they are planning to expand it by building more office rooms around the existing building.

4.5.2. Hungary, Várpalota

Várpalota is situated in the Central Hungarian Region, in the county of Veszprém, between two county seats, Székesfehérvár and Veszprém. The former agricultural town is widely known now for its thriving heavy and manufacturing industry featuring coal mining, metallurgy, and chemical industry in the 20th century. (Bráz, 1985) During this period several mines, buildings, factories, and production sites were established, industrial projects were launched providing jobs and living for the whole area. (Beluszky–Sikos, 2008)

However, the regime change in 1989 was followed by economic restructuring as well, thus one by one the facilities used for industrial activities started to get liquidated. In 1995 the mining discontinued, in 2000 the thermal power plant closed, and in 2006 aluminum smelter cancels its operations as well. Although, there are some remains of the heavy industry represented by the Nitrogénművek Chemical Plant that are still in use and industrial park that works with a quite low utilization. (Lux, 2006)

From the aforementioned unutilized sites; the old factory buildings, the remained facilities of the coal mine, the aluminum smelter, and the unutilized sites of the thermal power plant are the most powerful representatives of the brownfield sites that are in need of redevelopment. (Pirisi–Sókuti, 2013)

Unlike in Seinäjoki, in Várpalota these sites are in the view of the city and visible for everyone, and that is why I thought it is worth researching about and try to find out the reasons behind the lack of utilization of these sites. Thus I went to the local government in order to find out about the subject in question.

4.5.2.1. Interview with Mr. György Nagy

Mr. György Nagy is the Head of Office at the Várpalota City Council, Department of Urban Development.

He explained that since Várpalota is quite a small city, more like a town, thus there are not many options for development, at least regarding the issue of the money. Small towns like ours, struggle with low budgets received from the government, not being left with much room for development.

However, even with a minor budget it would be possible to manage some innovation or improvement plans, but he claimed that very few investors come here, so they have a struggle with that too. The reason for not having many potential investors is not the lack of opportunity, but the lack attraction, as there is nothing to come to Várpalota for. That means no appropriate infrastructure or public works at the industrial areas and no marketing activities to attract investors either. Although, it is a vicious circle; until the investors do not come, nothing is changing, because it is thought that it is useless, but at the same time till no effort is done, for instance building proper infrastructure or offering taxation benefits, no investor is going to come.

Mr. György Nagy said the same, which is consistent with my research, that there are many potential brownfield areas waiting for revitalization. However, the problem is that several of them are not even in the property of the local government and because of the pretty low budget it is not possible to buy these private properties. In addition, if it, in fact, is in the property of the city council, there is no money for remediation or decontamination activities, investors are still needed.

In the end he emphasized that the main problem is that they have to spend the money from the limited budget on issues that are in higher importance then brownfields, and for any change to come either foreign or inland investors are really needed.

4.5.2.2. Interview with Mr. Szabolcs Koczó

As it turned out from the interview with Mr. Szabolcs Koczó, Rapporteur on Environment, at the Várpalota City Council he finds the same problem that Mr. Görgy Nagy mentioned as well, according to which it is a rather significant problem that these brownfield areas, that are mostly buildings, are privately owned. He listed for instance the ghost buildings right next to the train station that were formally in military use and are probably still in the property of the military. For these old buildings there were potential foreign investors from India, then China, but after the crisis in 2009 they lost interest.

The biggest problem with the brownfield site being private property is that the interest of the owner and the local government are very different, and it is rather difficult to manage to get to the same page. Mr. Szabolcs Koczó even gave the example of the Berwin & Berwin Factory. It was a typical instance of the privatization after the regime change when the old suit and men's clothing factory got bought up by foreign investors who later on modernized the machinery as well as the manufacturing process. But after some time in 2008, when the tax incentives provided by the government discontinued, the firm decided to withdraw its business from Hungary and go to China, because labour there is much less expensive. So, from then on their old buildings are just standing there empty, out of use. They are also being kept under observation, which probably have costs a lot of money already, since a couple of years went by. Although the local government tried to make an agreement with the company, they asked for such a price that the city council could not pay. So, in the end, all the building are there, unutilized, even though all the public works are sealed and its location is satisfactory, because the owner demands a price the local government cannot pay and other investors are not interested.

He also mentioned the situation of the thermal power plant that closed in 2001. However, even if it does not work with the same operations as earlier, the company Inotal ltd. still operates there and uses some of the buildings, but since the processes are much more modern, the big towers are not in use anymore. Their projects and development has been achieved with the financial help of project Széchenyi 2020 and the European Regional Development fund.

4.5.3. Hungary, Székesfehérvár

Opposed to Várpalota, Székesfehérvár is a larger city and in addition, it is a county seat, and has five times the population of Várpalota.[27] That is why I decided to conduct a research in Székesfehérvár as well, so that I can find out whether it is true that bigger cities, through receiving more financing support from the government, can or are willing to deal with brownfield redevelopment projects.

The modern infrastructure of the city was established in the 1900s, although it was still listed as an agricultural city. Later on, in the 20th century, due to the innovative urban planning new institutions and public buildings, in addition, parks and promenades enriched the city.

[27] http://www.ksh.hu

The Second World War demolished the landscape of the city to a noticeable extent, so after the war ended intensive industrial development began. The same cannot be said about the couple of decades followed, but in the 1960s the development and boosting in investments started again.[28]

After the regime change in 1989, numerous factories were on the edge of collapsing and a great many people were left without jobs. However, the already existent and exceptional traffic connections and infrastructure attracted several foreign investors to Székesfehérvár. So much so, that the city became one of the main targets of multinational firms planning to set up a business in Hungary. The first investors to come were Ford and IBM followed by companies like Alcoa or Phillips making the city transit very successfully into the market economy.[29] (Barta, 1997, 105–117.)

The industry of Székesfehérvár is not sealed at all, but has a really strong relationship especially with Budapest. The closeness of the capital is more likely and advantage than a hindrance for the region, since Budapest does not absorb the resources or the area, but it is rather important in the terms of attracting foreign capital investments. (Barta, 1997, 105–117.)

4.5.3.1. Interview with Mr. Krisztián Ötvös

Following the suggestion of György Nagy, I contacted some of the members of the city council of Székesfehérvár and Krisztián Ötvös, the Head of Office from the Investments Department was the one that allowed me to interview him.

When I asked him about the currently ongoing investments, he could not provide me any examples of brownfield redevelopment projects. Although, there are some plans, such as the renovation of Maroshegyi kindergarten, but this project is mainly about the expansion of the facility.

There are some possible brownfield areas waiting for redevelopment, but the biggest difficulty is the complicatedness of these projects. He says that there are too many factors; the rate of contamination, problematic ownership, different opinion, lack of money, lack of knowledge or interest, or high risks. But even if everything is given at times, the high bureaucracy hinders the processes and just slows down all activities, so it literally takes ages to get the administration done.

[28] http://www.albaarchivum.hu/hu/
[29] http://www.budapest.com/hungary/cities/szekesfehervar/history.en.html

I asked him about the possible reason for the lack of brownfield investments in an as highly supported city as the county seat of Fejér County. As an answer he gave me an instance. Fekete Sas that used to be a hotel, but now it is declared as historical building, which means that the regulations for reconstruction are very strict. And even though there are ready plans for a library or a museum to be worked there, there are simply too many factors, such as work and consultation, expert report, license, and so on, that it is almost impossible to conduct a project with so diverse conditions.

So, he lists the complicatedness of the projects as an obstacle, and he adds that from own, local governmental resources it is impossible to conduct any projects, they rather just renew or keep functioning buildings in shape, as they do with the building of the Geoinformatics Faculty of the University of West Hungary, that is not in use anymore and the city council rents it from the property owner, and the Alba Regia Symphonic Orchestra uses it to keep practice sessions there.

Mr. Krisztián Ötvös notes in the end that in general, it is rather difficult to start a project without knowing its effectiveness or successfulness, thus it is essential, when deciding on a project, to take every factor into consideration and weather it is going to worth it in the end or not.

4.5.4. Summary of the interviews

The reason I chose to conduct personal interviews was to reach as much information as possible in the subject of brownfield redevelopment in practice.

Although I was aware of the difficulties and the hindrances of brownfield project realizations, to me it was rather surprising to get that many negative responses back, especially, in comparison with the case studies, where the outcome was all successful.

However, at least I gained a lot of specific information and reasons for the lack of brownfield projects. The most emphasized argument for not taking care of brownfields was the financial shortage, and that in these situations the local councils has to use the money for more important projects.

Another important issue was the complicatedness of the projects of these kinds. Bureaucracy plays a significant role, since it can deter the investors or other participants from starting a brownfield project. In addition, the lack of knowledge is an issue as well, since the contamination of the properties is unknown most of the time, so it discourages the potential investors as well.

The matter of unsettled ownership is a great obstacle, because it prolongs all the processes even the arguments can be settled at some point, but unfortunately, most of the time it takes ages to reach common ground and investors usually do not wait that long.

The difference of opinion counts as an issue as well, since investors usually desire profit as soon as possible, but regeneration projects take time and the high profit is not guaranteed all the time. Additionally, most investors are not even aware of brownfield re-development projects and their processes, so they usually avoid, especially when the contamination of the properties comes to their knowledge. In order to overcome that information shortage and the disadvantages it generated, a widely understood economic development strategy would be needed with useful toolbars offered.

5. DISCUSSION

5.1. SUMMARY

In my research I was looking for the answer of my question; what role the local governments play in brownfield redevelopment projects. Although in the end this simple question seemed plain and easy to research about, but as I started to get into the subject deeper, it got more complicated.

First of all, the literature from different authors showed a broad variety of brownfield revitalization theories with the possible difficulties, but emphasized the advantages. Since these researches were conducted in different countries, thus their results and so was their opinion very different.

I used case studies in order to ease those differences and try to find more practical date about the processes during carrying out a brownfield redevelopment project in. I used two from Europe and two from overseas. It turned out, just as the literature also showed, that while in the United States these brownfield sides got recognition long before they did in Europe, studies in the subject started earlier, and regeneration projects as well, in Europe the recognition and researches started later. This resulted that the American brownfield projects are usually more effective and can be managed to conduct them in a short time, in addition, there the support of the local community is more typical as well, due to the more widespread dissemination of information.

From the further researches I took a closer look to the Hungarian and the Finnish landscape of brownfields. It turned out that in Hungary the subject of brownfield gets the most recognition in academic environment, but in public senses almost no one knows about it at all. Of course, at local councils, they recognize it, but there is a really narrow segment that considers it important and has the sources possibilities for conducting a brownfield redevelopment project. Opposed to that, in Finland the situation is different. There are not many brownfield lands there, since their natural and economical endowments are different, in addition, the structural change did not reach them to a large extent.

But there are differences not only between the two countries of my choice, but a lot depends on the location of the certain city within the country. While Budapest or Helsinki, for instance, since they are capital cities, have many opportunities as well as many brownfield sites, and smaller cities may not have the same problem.

5.2. CONCLUSION; ANSWERS TO THE RESEARCH QUESTIONS

I raised many questions before I started my research and ended up with even more at the end. The purpose of this thesis is to base a comparison of the brownfield situation of the two chosen cities of the Finnish Seinäjoki and the Hungarian Várpalota.

As I mentioned earlier, because of the difference of economic history and industrialization brownfield, sites are very different in Hungary and in Finland. Hungary really was depending on the heavy industry before the regime change in 1989 and when those industrial sites were abandoned, because of the structural change when the economy turned to the direction of services and trade, many brownfield sites formatted and unfortunately, most of them are still existent. Although in the capital, where brownfield sites are more frequent as well, there are some examples of finished brownfield projects, but not as much it could be.

By contrast, in Finland, these outcomes of the structural change are not that prominent. Most of them occur in the capital, Helsinki, where there are more industrial sites, but the other, smaller cities only re-utilization or expansion of building are featured as redevelopment.

However, I managed to find some specific examples of brownfield redevelopment projects, in Várpalota and in Seinäjoki as well. In Várpalota there are many possible sites for brownfield regeneration, as it is clearly visible for everyone in the city. I was interested whether the local government is aware of the problems and if they are, are there any plans for redevelopment. By comparison, in Seinäjoki I went to ask about the same subjects, although I did not know about special buildings or sites possible for rehabilitation.

In Várpalota the situation was rather interesting, because there were many brownfield sites waiting for reutilization, mainly buildings, such as the old Berwin factory, or the unused military sites. Although in Seinäjoki they could not provide me an example of a specific brownfield project or possible sites. However, the building of Rytmikorjaamo was a great example of the reutilization of an old building.

Although there are many different barriers and obstacles to brownfield regeneration projects listed by my interviewees, such as the lack of money or subsidies for projects like brownfield, the lack of interest by investors, low support from the community, high bureaucracy, or unsettled ownership, but these are most of the time can be bridged by a bit of attention and caring for the sake of a healthier and nicer local landscape.

In addition to the abovementioned, there is another reason for the low popularity of brownfield redevelopment projects, the lack or very minimal level of awareness of the

subject of brownfield. In my opinion that is supported by the literature, brownfield projects were much more popular if the wrong presumptions and fears about these projects were replaced by the appropriate information about these sites. This could be the task of the national government, but first of all, the local governments, in order to create a sustainable local development in their own settlements.

There are many advantages of brownfield rehabilitation projects, such as the site that becomes used again and remediated, the local job creation, and the attraction of foreign or inland investors. Additionally, due to these activities, the city and the local community develop and improve as well.

I believe, this is the most important role of a local government, not to provide the money, that almost everyone thinks at first they have to do in a case of a brownfield project, but to bring all the important factors together, such as attracting the investors, collecting all the information about the brownfield sites, trying to apply for funds for the government, gaining the trust of the community by communicating the project wisely.

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